



FEATURES

- Twinax 5250 and 5250 Express compatible repeater and fiber converter that functions as a twinax to twinax repeater to extend twinax distance or as a fiber converter to extend distance using fiber media.
- Seamlessly connects to IBM's AS/400 and 3X local and remote twinax controllers and workstations.
- Supports distances of 5,000 feet on twinax, 15,000 feet on multimode fiber and 30,000 feet on single-mode fiber.
- Cascadable to four units for extra long distances.
- Retiming repeater technology regenerates and reclocks data, eliminating clock jitter and noise.
- Digital Phase Locked Architecture provides acquisition of data rates of 1 Mbps for 5250 or 2 Mbps for 5250 Express (-2%, +4%), resulting in high immunity to noise and crosstalk.
- Clear display and software independence make installation and monitoring intuitive and easy.
- Supports single-mode and multimode fiber.

DESCRIPTION

The OmniRepeater™ 400 is an IBM 5250 and 5250 Express compatible repeater and fiber converter. It retimes and regenerates the data signal to facilitate extended twinax distances and provides twinax to fiber conversion which enables 5250 fiber data connectivity. It supports distances of up to 5,000 feet on twinax, 15,000 feet on multimode fiber and 30,000 feet on single-mode fiber. The OmniRepeater can be cascaded up to four units to reach extra long distances.

The host connects to the OmniRepeater via twinax. When used as a twinax repeater, the OmniRepeater connects the far end via twinax and can daisy chain up to seven workstations. When used as a fiber converter, it converts the end device back to twinax via a second OmniRepeater, or directly to twisted pair via a fiber to twisted pair star.

The OmniRepeater diagnostics detect and display true port activity and parity errors. The ports are monitored for valid frame header patterns which are displayed via green Activity LEDs. The data is analyzed for errors; a detected error is displayed via red Parity Error LEDs. These features assist in installation and monitoring of the OmniRepeater operation.

In contrast to a standard active signal booster which is susceptible to device data rate variations, noise and crosstalk, the OmniRepeater's Digital Phase Locking Architecture (PLA) provides data acquisition with data rate variations of -2% to +4%

while providing superior noise and crosstalk immunity.

The Express models operate with both the 5250 and 5250 Express protocols. Each port provides data rates of 1 Mbps for standard 5250 and 2 Mbps for 5250 Express protocol.

The OmniRepeater 400 is completely software-transparent and no setup or any changes are required.

OPERATION

Inputs: The OmniRepeater 400 is built around a Digital Phased Locked Architecture (PLA). This technology allows effective discrimination between true data and noise. The incoming Manchester encoded data is sampled at 16 samples per bit, which facilitates digital filtering of noise and crosstalk. A unique clock recovery facilitates the capture of data with rate variations of -2% to +4%.

Processing: Once the data is recovered and synchronized, it is processed. The processor analyzes the frame header. If a legal header is detected, the port is "marked" active and the data is allowed to flow through the repeater.

Outputs: The retransmitted data is regenerated, reclocked and lost sync bits are recovered. The data is reclocked at 50% duty cycle to eliminate clock jitter. The signal is restored to nominal amplitude and the pre-distortion logic compensates for anticipated phase shift and attenuation.

Displays: True data activity and parity errors are displayed by green and red LEDs. The green activity LEDs assist in monitoring signal strength while the red Parity Error LEDs assist in monitoring connectivity quality, signal strength, impedance mismatches and reflections.

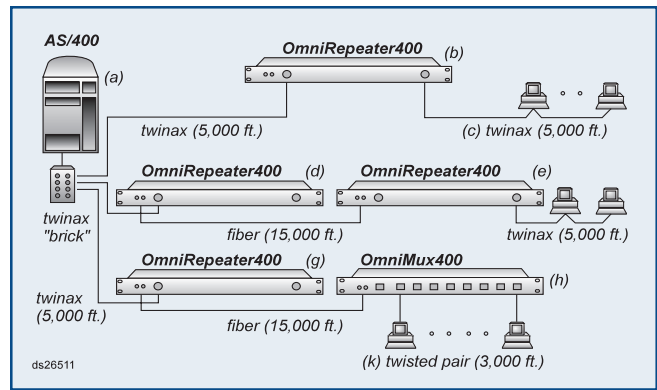
SAMPLE APPLICATIONS

The following picture depicts three typical applications of the OmniRepeater 400:

In the first case, the host (a) twinax signal is repeated and reclocked by the OmniRepeater (b) and workstation distance from the host is extended to 10,000 feet (c).

In the second case, the OmniRepeater (d) converts the twinax data to fiber and then back to twinax via a second OmniRepeater (e).

In the third case, twinax is converted to fiber (g) via the OmniRepeater and then to twisted pair via an OmniMux™ (h) which delivers it to the workstations (k).



SPECIFICATIONS

- **Protocol:** IBM 5250 and 5250 Express for Systems AS/400, 3X
- **Interface:**
 - Link:** One (1) Twinax, One (1) Fiber or One (1) RJ11/45, One (1) Fiber
 - Port:** One (1) Twinax or One (1) RJ11/45 (RJ11 pins 3-4, RJ45 pins 4-5 are standard)
- **Cable Types:**
 - Twinax:** IBM 7362229 or equivalent
 - UTP:** Category 3 (EIA/TIA 568) or higher, (shorter distance @ lower grade)
- **Data Rate:**
 - Standard 5250:** 1 Mbps -2%, +4%
 - 5250 Express:** 1 or 2 Mbps -2%, +4%
- **Supported Distances:**
 - Twinax:** 5,000 ft.
 - UTP:** 3,000 ft.
 - Multimode Fiber:** 15,000 ft.
 - Singlemode Fiber:** 30,000 ft.
- **Physical features:**
 - Rackmounted:** W:19.0"xD:6.0"xH:1.75"
 - Tabletop:** W:17.5"xD:6.0"xH:1.75"
 - Weight:** 7 lbs.
- **Power:** 115 or 230 VAC, 150 mA
- **Temperature:**
 - Operating:** 0 to 40 degrees C
 - Storage:** -40 to 75 degrees C
- **Humidity:** Up to 90% (non condensing)

ORDERING INFORMATION

<u>Standard</u> <u>5250</u>	<u>5250</u> <u>Express</u>	<u>Description</u>
2651	2661	Twinax to Twinax and Fiber
2653	2663	Twinax to Twinax Only

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